Math& 141: Precalculus I

COURSE LEARNING OUTCOMES
Students will be able to:
1. Demonstrate an understanding of the fundamental concept of a mathematical function and all of its properties (domain, range, composition, etc.)
2. Solve systems of equations and inequalities using algebraic techniques, including matrices and determinants.
3. Find zeros of polynomials using methods other than factoring and the zero product property.
4. Graph polynomial, greatest integer, absolute value, square root, rational, exponential and logarithmic functions.
5. Apply properties of exponential and logarithmic functions to solve specific equations and applications.
6. Justify solutions and the problem solving process; verify and interpret solutions with respect to the original problem.
7. Identify some connections between the mathematics at this level and the real world.

DETAILED COURSE OUTLINE:
I. Introduction of fundamental concepts of
   A. Mathematical function
   B. Properties (domain, range, composition, etc.)

II. Solving equations and inequalities using Algebraic techniques:
   C. Matrices
   D. Determinants

III. Polynomials
   A. Zeros

IV. Graphing:
   A. Polynomial
   B. Greatest integer
   C. Absolute value
   D. Square root
   E. Rational
   F. Exponential
   G. Logarithmic functions

V. Solving specific equations and applications using:
   A. Properties of exponential
   B. Logarithmic functions

VI. Justifying solutions and problem solving process

VII. Identifying math connections with the real world